

Comparisons of Job Characteristics

Focus Occupation: [Civil Engineering Technicians \(17-3022\)](#)

Associated Occupation: [Environmental Engineering Technicians \(17-3025\)](#)

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 80

Focus Occupation: Civil Engineering Technicians (17-3022)
Associated Occupation: Environmental Engineering Technicians (17-3025)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Engineering and Technology	5.7	15.8	15.6	0	Current knowledge level may be sufficient
Design	5.2	11.1	14.1	>>	Current knowledge level is likely more than sufficient
Building and Construction	4.0	10.6	15.1	>>	Current knowledge level is likely more than sufficient
Physics	4.3	10.2	7.0	<<	Extensive education and/or training may be required
Law and Government	5.9	9.5	6.7	<<	Extensive education and/or training may be required
Biology	3.7	6.8	2.8	<<	Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 85

Focus Occupation: Civil Engineering Technicians (17-3022)
Associated Occupation: Environmental Engineering Technicians (17-3025)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Reading Comprehension	10.7	16.3	12.9	<<	Extensive development of skills in this area may be required
Critical Thinking	10.8	14.5	10.7	<<	Extensive development of skills in this area may be required
Active Learning	8.7	12.6	7.6	<<	Extensive development of skills in this area may be required
Mathematics	6.2	11.3	8.7	<<	Extensive development of skills in this area may be required

Quality Control Analysis	5.9	9.7	4.8	<<	Extensive development of skills in this area may be required
Management of Material Resources	3.7	6.8	4.3	<<	Extensive development of skills in this area may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities		Similarity of Focus Occupation to Associated Occupation: 90			
Focus Occupation: Civil Engineering Technicians (17-3022)					
Associated Occupation: Environmental Engineering Technicians (17-3025)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Written Comprehension	11.0	16.6	11.4	<<	Extensive improvement in abilities may be required
Problem Sensitivity	11.1	15.9	10.8	<<	Extensive improvement in abilities may be required
Near Vision	11.1	14.7	12.6	<	Some improvement in abilities may be required
Deductive Reasoning	10.6	14.5	11.4	<<	Extensive improvement in abilities may be required
Inductive Reasoning	10.2	13.6	9.9	<<	Extensive improvement in abilities may be required
Information Ordering	9.9	13.3	10.3	<<	Extensive improvement in abilities may be required
Category Flexibility	9.0	11.8	9.4	<	Some improvement in abilities may be required
Mathematical Reasoning	6.3	10.6	10.3	0	Current ability level may be sufficient
Number Facility	6.3	10.6	9.2	<	Some improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common		Similarity of Focus Occupation to Associated Occupation: 90
Focus Occupation: Civil Engineering Technicians (17-3022) Associated Occupation: Environmental Engineering Technicians (17-3025)		
Work Activities	Exclusivity of Activity	
Analyze scientific research data or investigative findings	27	
Analyze technical data, designs, or preliminary specifications	47	
Calculate engineering specifications	64	
Communicate technical information	4	
Develop plans for programs or projects	31	
Estimate cost for engineering projects	69	
Evaluate engineering data	60	

Examine engineering documents for completeness or accuracy	62
Explain complex mathematical information	30
Inspect facilities or equipment for regulatory compliance	51
Operate precision test equipment	81
Prepare technical reports or related documentation	22
Read blueprints	10
Read technical drawings	7
Understand engineering data or reports	48
Understand technical operating, service or repair manuals	6
Use building or land use regulations	65
Use chemical testing or analysis procedures	54
Use electrical or electronic test devices or equipment	40
Use knowledge of materials testing procedures	70
Use knowledge of metric system	39
Use precision measuring tools or equipment	17
Use scientific research methodology	21
Use technical regulations for engineering problems	61

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus
Occupation to Associated
Occupation: 79

Focus Occupation: Civil Engineering Technicians (17-3022)
Associated Occupation: Environmental Engineering Technicians (17-3025)

Tools and Technologies	Exclusivity
Audio and visual equipment	4
Chemical evaluation instruments and supplies	10
Computer data input devices	2
Computer printers	2
Computers	1
Content authoring and editing software	1
Drilling and workover rigs and equipment	47
Electrochemical measuring instruments and accessories	9
Fluid mechanics equipment	11
General laboratory glassware and plasticware and supplies	13
Hydrological instruments	31
Indicating and recording instruments	2
Industry specific software	1
Information exchange software	1
Laboratory heating and drying equipment	13
Laboratory mixing and stirring and shaking equipment and supplies	19
Laboratory ovens and accessories	15
Meteorological instruments	16
Network applications software	1

Pipettes and liquid handling equipment and supplies	16
Safety apparel	4
Sampling equipment	12
Soil measuring equipment	20
Temperature and heat measuring instruments	6
Weight measuring instruments	7

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.